

**SCOTT M. MATHESON**  
Governor

**TEMPLE A. REYNOLDS**  
*Executive Director,*  
**NATURAL RESOURCES**

**CLEON B. FEIGHT**  
*Director*



**STATE OF UTAH**  
**DEPARTMENT OF NATURAL RESOURCES**  
**DIVISION OF OIL, GAS, AND MINING**  
**1588 West North Temple**  
**Salt Lake City, Utah 84116**  
**(801) 533-5771**

**OIL, GAS, AND MINING BOARD**

**CHARLES R. HENDERSON**  
*Chairman*

**JOHN L. BELL**  
**EDWARD T. BECK**  
**E. STEELE McINTYRE**  
**BOB NORMAN**  
**MARGARET BIRD**  
**HERM OLSEN**

**M E M O R A N D U M**  
\* \* \* \* \*

**TO:** Board of Oil, Gas and Mining

**FROM:** Thomas N. Tetting, Engineering Geologist

**SUBJECT:** United States Steel Corporation  
Desert Mound Mine  
ACT/021/003  
Iron County, Utah

**DATE:** November 13, 1981

The Division staff has reviewed the Mining and Reclamation Plan submitted by United States Steel Corporation for the Desert Mound Mine and feels that the plan meets the requirements of the Utah Mined Land Reclamation Act. The Division seeks the Board's concurrence to issue tentative approval to this mine operation.

An Executive Summary is enclosed for your information.

The Division proposes a bond for the estimated amount of \$146,381.00 for the 231 + acre operation. The Division requests the Board's approval on the amount and form of the surety.

TNT/te

EXECUTIVE SUMMARY  
\*\*\*\*\*

UNITED STATES STEEL CORPORATION

Desert Mound Mine  
ACT/021/003  
Section 2, 19 and 30,  
Township 36 South, Range 13 West  
Iron County, Utah

#### ECOLOGY:

Two different vegetation types exist within the disturbance area. A pinyon-juniper community dominates in the pits and dumps area, with some cliffrose, serviceberry and bitterbrush interspersed with pinyon and juniper trees. By ocular estimate, tree cover is 50%, with sparse cover in between. A low shrub-grass community, consisting of sagebrush, rabbitbrush, rice grass, cheatgrass and annual weeds, dominates in the plant and road area. Plant cover here, by ocular estimate, is 50%. The applicant committed to planting a trial seed mixture, recommended by the Soil Conservation Service, last spring and this fall on a small area of one of the existing dumps.

Some wildlife use, mostly by mule deer, has been noted in the proposed dump area. Disturbance of this area should have little impact on the resident deer herd.

#### STRUCTURES AND FACILITIES:

Two pits exist on the southwest section of the operation. The Mountain Lion Pit, which will continue in use and the Yellow Jacket Pit which is being filled by waste rock from an extension of the waste dump to the south. A proposed pit, the Homestake, is partially located within an area that is currently being used as a dump. This dump will be enlarged to the north during future operations.

A six mile long (60 acre) road connects the previously mentioned southwest section with the mill, shop, pit and dump area to the northeast.

This area to the northeast is composed of three abandoned pits, the Shortline, the Desert Mound and the Ratler Pit. These are in varying stages of fill and were abandoned prior to 1975. Several abandoned dumps also exist and are also exempt before the 1975 grandfather clause. An existing road to a remote location having an explosive powder storage house will actively be used in the future. The mill and facilities, including shops, storage, ore loadout and crushers will continue to be used until completion of the operation.

#### COMMODITY AND OWNERSHIP:

U.S. Steel Corporation proposes to mine iron ore by the open-pit method.

The mine is located entirely on private land in part owned by U.S. Steel Corporation.

Operations have been on-going since 1953 but were temporarily halted on March 27, 1980. They now wish to resume and expand operations as designated under this most recent mined land reclamation plan.

#### LOCATION:

The mining and milling activity will take place twelve miles west of Cedar City off of highway 56. An existing gravel road connects the open-pit site on Iron Mountain with the mill site and abandoned dump area six miles to the northeast, Section 2, 19 and 30, Township 36 South, Range 13 West, SLBM.

#### GEOLOGY:

The active Lion pit and proposed Homestake pit are located on the northeastern flank of Iron Mountain. The Cretaceous and Jurassic sediments have been intruded by Paleocene and Oligocene quartz monzonite. The magnetite hematite (iron ore) deposits are associated with the Homestake Limestone Member alteration during this replacement sequence.

#### HYDROLOGY:

This is a semiarid area which received approximately 10 inches of precipitation annually. No springs or perennial streams exist in the immediate mine area. Previous mining has intercepted a small amount of ground-water conveyed through the Homestake Limestone which has been fractured by the intrusive quartz monzonite. This water will be pumped out of the Mountain Lion Pit at the rate of 300 gpm during operations. It will be (and has been) discharged into the pinyon-juniper community northeast of the pit onto ground managed by the Bureau of Land Management. A water quality report has been forwarded to the Division.

#### SOILS:

Shallow silty, sandy alluvial sedimentation has occurred from the degradation of Iron Mountain and the local Swett Hills. The material is gravelly and contains cobbles of magnetite and quartz monzonite. No topsoil was stockpiled from previous activity and very little useable material exists to cover the waste rock.

## MINING AND RECLAMATION PLAN:

### During Operations:

1. The development phase will continue to involve the removal of the ore rock from the Mountain Lion Pit and proposed Homestake Pit in a series of stable 2:1 benches (average 50' vertical, 25' horizontal).
2. Waste rock will be dumped nearby filling up the abandoned Yellow Jacket Pit and disturbing a proposed dump area to the north.
3. The stabilization and reclamation of this dump will be a continual process with rounding off of angular corners and revegetation progressing as each segment is completely filled.
4. Ore rock will be trucked the six miles over the company's gravel road to the mill area where it will be stockpiled and loaded onto trains bound for the Geneva Steel Plant.
5. Revegetation test plots will be maintained on the dump sites to enable better post mining success.
6. Support shops and facilities will be maintained adjacent to this loadout area.

### After Operations:

1. Open pits will be left open, excepting the Yellow Jacket, and a six foot high safety rick of run of mine waste rock will be dumped around all pit perimeters for safety purposes.
2. Waste dumps will have their final edges rounded and completion of regrading and reseedling will take place, finishing areas that will not have already been completed.
3. Company haul roads and miscellaneous service facility locations, well pump station, culinary water towers, powder storage area, will be reclaimed and reseeded with a list recommended by the Soil Conservation Service.
4. All structures, foundations and machinery in the mill facility area will be removed with regrading, recontouring and reseedling bringing the surface back to a natural configuration.
5. Fencing will remain in place or be installed around all waste dumps.

# DIVISION OF OIL, GAS, AND MINING

## BOND ESTIMATE

OPERATOR: U.S. Steel Corporation  
 MINE NAME: Desert Mound Mine  
 LOCATION: Sec. 2, 19 and 30, T. 36S., R. 13W., SLBM  
 COUNTY: Iron  
 DATE: November 13, 1981

	Operation	Amount	Rate	Cost
A.	<b>CLEAN-UP</b>			
	1. Removal of structures & equipment.	Powderhouse	Lump sum	\$ 5,000.00
	2. Removal of trash & debris.	mill & shop	(removal cost	
	3. Leveling of ancillary facilities		minus salvage	
	pads and access roads.			
B.	<b>REGRADING &amp; RECONTOURING</b>			
	1. Earthwork including haulage and	80 acre(dumps)	@ 550/acre	\$ 44,000.00
	grading of spoils, waste and over-			
	burden.			
	2. Recontouring of highwalls and	91 acre	@ 200/acre	\$ 18,200.00
	excavations.	(plant area)		
	3. Spreading of soil or surficial	60 acre(roads)	@ 200/acre	\$ 12,000.00
	materials.			
C.	<b>STABILIZATION</b>			
	1. Soil preparation, scarification,	Included in B(1) above		
	fertilization, etc.			
	2. Seeding or planting.			
	3. Construction of terraces, water-			
	bars, etc.			
D.	<b>LABOR</b>			
	1. Supervision.	Included in B(1) above		
	2. Labor exclusive of bulldozer time.			
E.	<b>SAFETY</b>			
	1. Erection of fences, portal cover-	Pit areas stabilized and		
	ings, etc.	bermed as part of the mining		
	2. Removal or neutralization of	of the pit.		-0.00
	explosive or hazardous materials.			
F.	<b>MONITORING</b>			
	1. Continuing or periodic monitoring,	5 inspections	\$50.00 each	\$ 250.00
	sampling & testing deemed necessary.			\$ 79,450.00
G.	<b>OTHER</b>			
	1. Inflation	5 years	13%	\$ 66,931.00
			Total	\$146,381.00